FIL05035ID

ECOLOGY AND ENVIRONMENT, INC.
FIELD INVESTIGATION TEAM
SITE SAFETY PLAN

A. GENERAL INFORMATION

SITE: Williams Pipeline Company TDD NO.: F05-8612-083

WSTS/ACCOUNT NO: F1L05035A

LOCATION: 10601 Franklin Ave., Franklin Park, IL. 60131 Cook County

PLAN PREPARED BY: T. Wolff DATE: 2/24/87/Revd. 8/25/87

APPROVED BY: Michael O'Mahony Anne M. Stumpf DATE: 3/3/87 approved 9/1/87 AMS.

OBJECTIVE(S): (including description of work to be performed): An on site inspection will be conducted with interviews of facility representatives. No sampling will be undertaken.

PROPOSED DATE OF INVESTIGATION: SEPT. 22, 1987

BACKGROUND REVIEW: Complete: ✓ Preliminary: _____

DOCUMENTATION/SUMMARY: Overall Hazard: Serious: _____ Moderate: _____
Low: ✓ Unknown: _____

B. SITE/WASTE CHARACTERISTICS

WASTE TYPE(S): Liquid _____ Solid _____ Sludge ✓ Gas _____

CHARACTERISTIC(S): Corrosive _____ Ignitable ✓ Radioactive _____ Volatile ✓
Toxic ✓ Reactive _____ Unknown _____ Other (Name) _____

FACILITY DESCRIPTION: Williams Pipeline Company is a common carrier for refined petroleum products. Petroleum is received via pipeline and stored in tanks. From 1955 to 1979, leaded tank bottoms were cleaned from tanks and buried on site.

Principal Disposal Method (type and location): Shallow trenches were excavated, and sludge was buried and covered with backfill.

Unusual Features (dike integrity, power lines, terrain, etc.): Trenches were sited within the tank dike which was opened for discharge into adjacent Silver Creek (NPDES). O'Hare Airport is about 2.5 miles to the north of site.

Status: (active, inactive, unknown) Facility is still active; however, the burial of petroleum sludge was ceased in 1979.

History: (Worker or non-worker injury; complaints from public; previous agency action): FROM 1935 TO 1974, THERE IS NO RECORD OF ABNORMAL HISTORY. IN 1974 CITIZENS COMPLAINED THAT H_2O AND GASOLINE WERE BEING DRAINED OFF A STORAGE TANK. IN 1980, IEPA CITED THE FACILITY FOR FAILURE TO COMPLY WITH PERMITTING REGULATIONS, AND, FINALLY, IN 1985, MSD ASKED THE FACILITY TO DISCONNECT AN UNAUTHORIZED NPDES DISCHARGE PENDING FURTHER ACTION.

C. HAZARD EVALUATION

(Use Hazard Evaluation of Chemicals sheets for specific or representative chemicals present.):

LEADED TANK BOTTOMS ARE BURIED ON SITE (K052). ALSO, FUEL OIL CONSTITUENTS MAY BE PRESENT IN BURIED SLUDGE. Such as Benzene, ethyl benzene Toluene, Xylene.

D. SITE SAFETY WORK PLAN

PERIMETER ESTABLISHMENT: Map/Sketch Attached YES. Site Secured? UNKNOWN.
Perimeter Identified? YES Zone(s) of Contamination Identified? NO
ASSUME ENTIRE SITE IS CONTAMINATED.

PERSONAL PROTECTION

Level of Protection: A ____ B ____ C ____ D ✓

Modifications: LEVEL D WITH POSSIBLE UPGRADE TO LEVEL C IF HNU EQUIPMENT READINGS ARE 1-5 ppm ABOVE BACKGROUND.

Surveillance Equipment and Materials:

O_2 METER: ACTION LEVELS - < 19.5% OR > 25% O_2 → ABANDON SITE AND CONTACT RSC
EXPLOSIMETER: ACTION LEVELS ≥ 30% LEL → ABANDON SITE AND CONTACT RSC
HNU: ACTION LEVELS - 0-1 ppm > BKGD. → LEVEL D
>1-5 ppm > BKGD. → LEVEL C
>5-500 ppm > BKGD. → abandon site + contact RSC.
>500 ppm > BKGD →
RAD MINI: ACTION LEVEL - readings > 0.1 mR/Hr or if alarm sounds, abandon site & contact RSC.

NO MONITOR OR DRAGER TUBES - HCN IS NOT SUSPECTED ON SITE.

DECONTAMINATION PROCEDURES: DECONTAMINATION IS HIGHLY UNLIKELY. HOWEVER, IN THE EVENT OF CONTAMINATION, ALL CONTAMINATED EQUIPMENT WILL BE WASHED WITH DETERGENT AND RINSED WITH DISTILLED WATER. RESIDUAL LIQUID WILL BE LEFT ON SITE AFTER OBTAINING PRIOR PERMISSION.

Special Equipment, Facilities, or Procedures: NO SPECIAL EQUIPMENT WILL BE NECESSARY.

SITE ENTRY PROCEDURES: OBTAIN PERMISSION FOR SITE ENTRY FROM SITE OWNER/OPERATOR PRIOR TO SITE INSPECTION. Obey "buddy system" at all times. Locate all exits prior to site entry if site is secured. Obey facility safety regulations as a minimum.

Team Member	Responsibility
TED WOLFF	TEAM LEADER / Site Safety Officer
CRAIG CARLSON	TEAM MEMBER

WORK LIMITATIONS (Time of day, etc.): WORK DURING DAYLIGHT HOURS ONLY, AND MONITOR FOR HEAT or cold STRESS.

INVESTIGATION-DERIVED MATERIAL DISPOSAL: THERE SHOULD BE NO INVESTIGATION-DERIVED MATERIAL. IF ANY IS GENERATED IT WILL BE DOUBLE-BAGGED, LABLED as "potentially hazardous" and left on site with prior permission

E. EMERGENCY INFORMATION*

LOCAL RESOURCES

Ambulance (312) 832-2000 SUPERIOR AMBULANCE SERVICE 395 W. LAKE ST. ELMHURST
Hospital Emergency Room (312) 345-8100 - ST. ANNES HOSPITAL WEST 365 E. NORTH AVE NORTHLAKE
Poison Control Center (312) 942-5969 RUSH PRES. ST. LUKES 1753 W. CONGRESS CHICAGO
Police (312) 678-2444 FRANKLIN PARK POLICE DEPARTMENT
Fire Department (312) 678-2944 * EMERGENCY PARAMEDIC AMBULANCE SERVICE AVAILABLE
Airport (312) 686-7000 BUTLER AVIATION - O'HARE GENERAL INFORMATION
Explosives Unit (312) 678-2444 FRANKLIN PARK POLICE DEPARTMENT
EPA Contact DON JOSIE 886-0393 230 S. DEARBORN (11TH FLOOR)

SITE RESOURCES

Water Supply DISTILLED WATER SUPPLIED BY FIT
Telephone (312) 455-1446 WILLIAMS PIPELINE COMPANY 10601 FRANKLIN AVE, FRANKLIN PARK
Radio None
Other N/A

EMERGENCY CONTACTS

1. Mr. Raymond Harbison (University of Arkansas) ..... (501) 661-5766 or 661-5767
   MED-TOX ..... (501) 370-8263 (24 hours)
2. Regional Safety Coordinator - Paul Moss ..... (312) 541-6635 (Home)
3. Regional Project Manager- Rene Van Someren ..... (312) 763-7335
4. FIT Office ..... (312) 663-9415
5. E & E 24 Hour Call Line ..... (716) 631-9530 (24 Hours; Call Forwarding)
6. Regional Health Maintenance Program Contact ..... PMI - (312) 832-8820
   8:00 a.m. - 5:00 p.m.
7. Paul Jonmaire..... (716) 631-9530 (Response Center)
   Corporate Safety Director (716) 632-4491 (office)
8. Ecology and Environment, Inc. NPMO ..... (703) 522-6065

F. EMERGENCY ROUTES

(Give road or other directions; attach map)

Hospital: FRANKLIN AVENUE ONE BLOCK EAST TO MANHEIM ROAD. TURN RIGHT (SOUTH) ON MANHEIM FOR 2.5 MILES TO NORTH AVE. TURN RIGHT (WEST) ON NORTH AVE. TO 365 E. NORTH AVE. (1 BLOCK ON SOUTH SIDE OF STREET).

ecology and environment, inc.

N

REFERENCE ....

SITE NAME Williams Pipeline

SITE ID ILD000673653

USGS TOPOGRAPHIC MAPS:

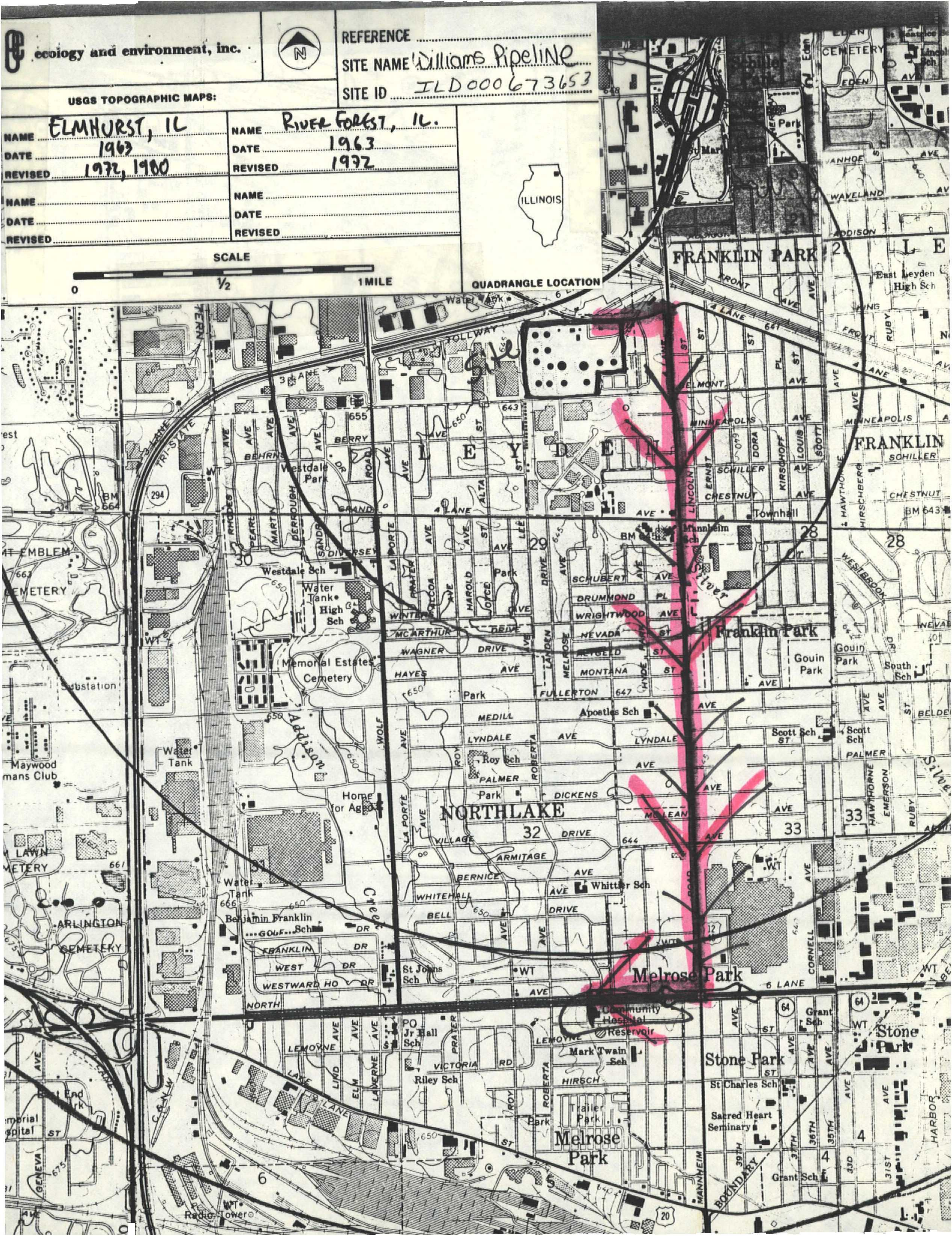
NAME ELMHURST, IL	NAME River Forest, IL.
DATE 1963	DATE 1963
REVISED 1972, 1980	REVISED 1972
NAME	NAME
DATE	DATE
REVISED	REVISED

SCALE

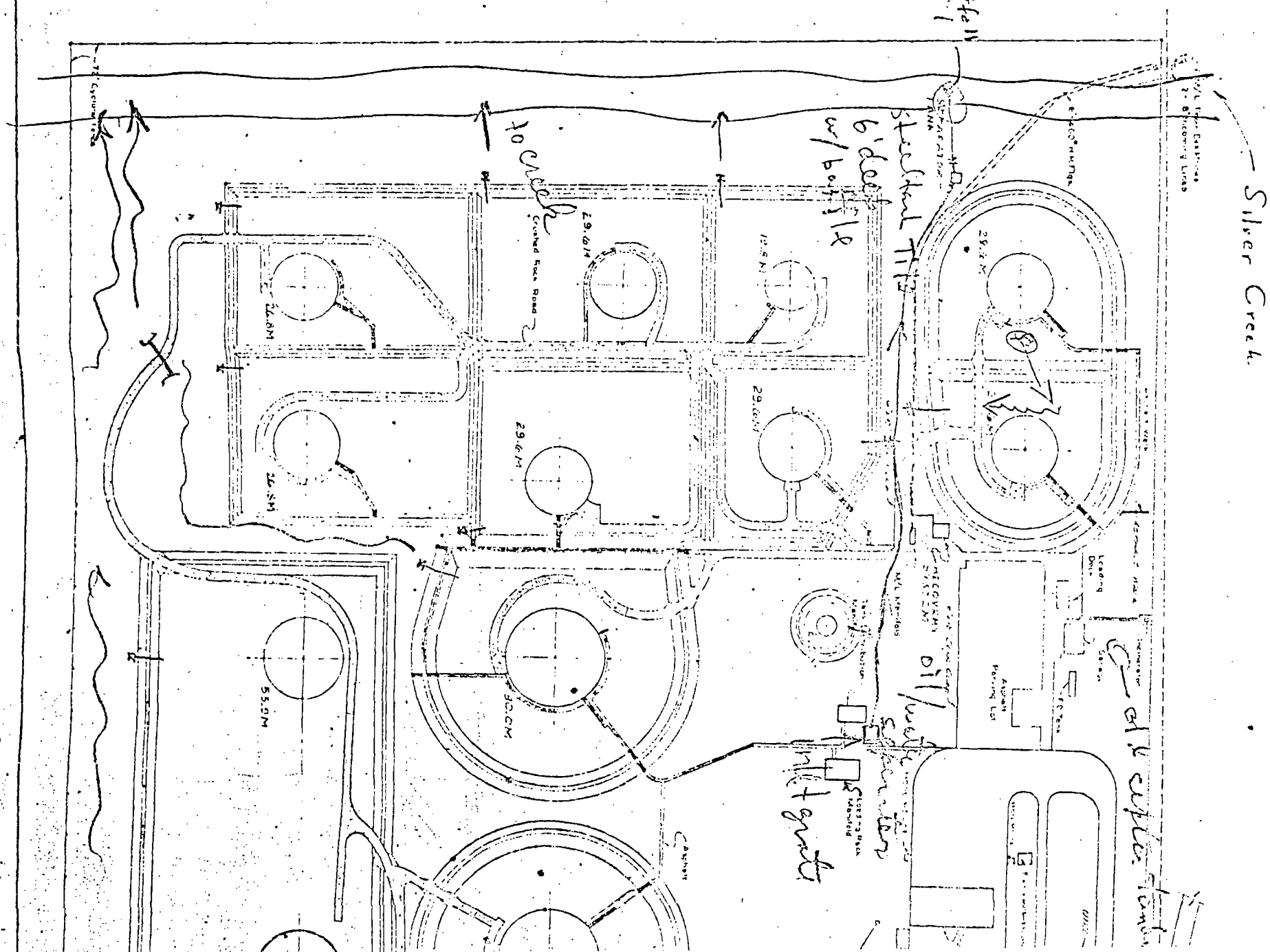
0 ½ 1 MILE

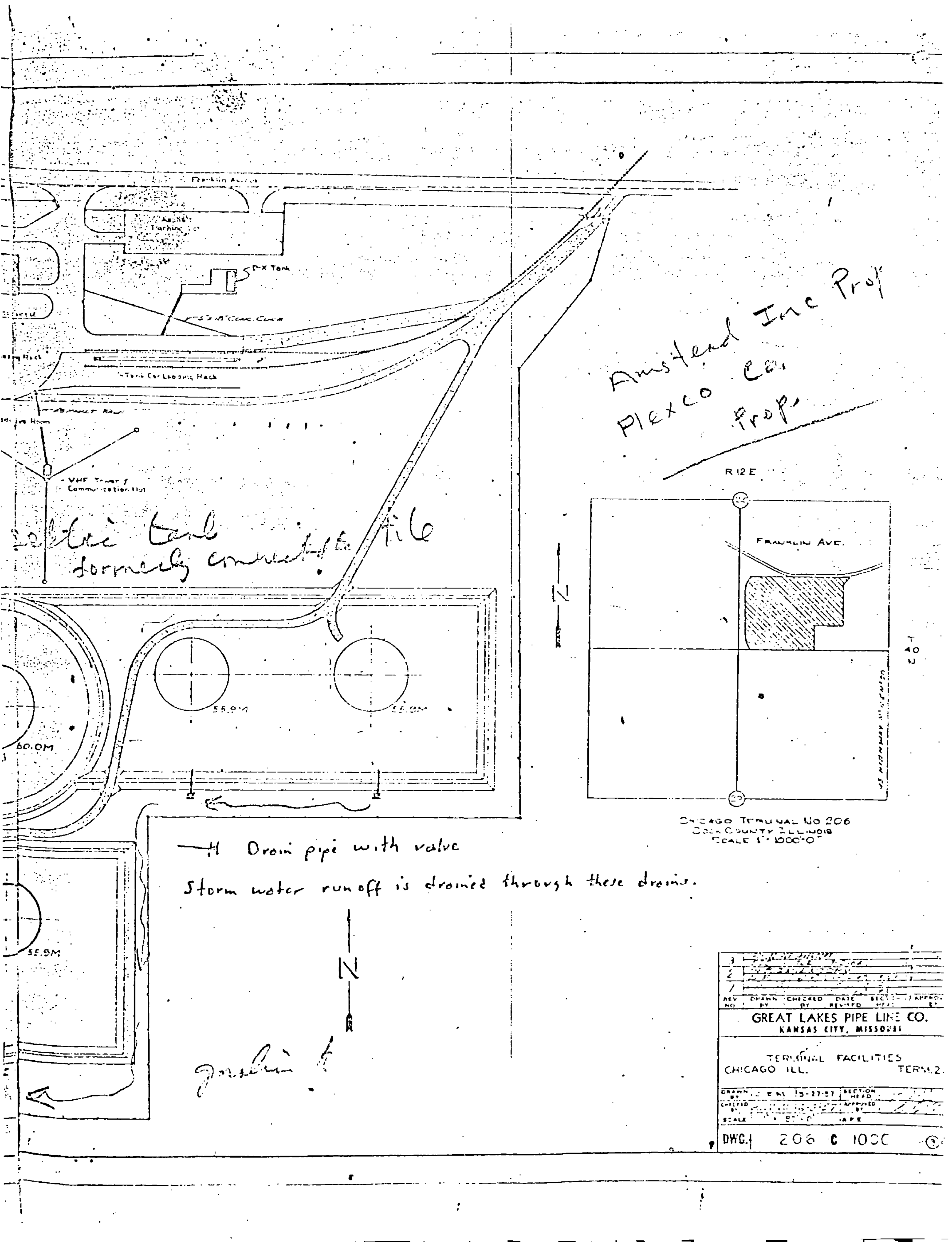
ILLINOIS

QUADRANGLE LOCATION


FRANKLIN PARK
LEYDEN
NORTHLAKE
FRANKLIN
Franklin Park
Melrose Park
Stone Park
Melrose Park
Schiller Park
East Leyden High Sch
Westdale Park
Westdale Sch
Memorial Estates Cemetery
Addison Creek
Mannheim Sch
Townhall
Gouin Park
Apostles Sch
Roy Sch
Whittier Sch
Benjamin Franklin Sch
St Johns Sch
Community Hospital
Reservoir
Mark Twain Sch
Riley Sch
Trailer Park
St Charles Sch
Sacred Heart Seminary
Grant Sch
Scott Sch
South Sch
TOLLWAY
TRI-STATE
294
MANNHEIM
BOUNDARY
NORTH AVE
LEMOYNE
MONTANA
FULLERTON
MEDILL
LYNDALE
PALMER
DICKENS
ARMITAGE
WHITEHALL
BELL
SCHILLER
CHESTNUT
BELMONT
MINNEAPOLIS
SCHUBERT
DRUMMOND
WRIGHTWOOD
NEVADA
ALTGELD
Home for Aged
Radio Tower
Substation
Water Tank
ARLINGTON CEMETERY
Maywood

DWG. No.	LIST OF ACCOMPANYING DRAWINGS	DWG. No.	LIST OF ACCOMPANYING DRAWINGS	DWG. No.	LIST OF ACCOMPANYING DRAWINGS
2706	PIPING LAYOUT				





Franklin Ave
Tank Car Loading Rack
VHF Tower & Communication Hut
Amstead Inc Prop
Plexco Co. Prop.
tank formerly connected to tile
55.9M
60.0M
R 12 E
FRANKLIN AVE.
T 40 N
CHICAGO TERMINAL No 206
COOK COUNTY ILLINOIS
SCALE 1"=1000'-0"
N
Drain pipe with valve
Storm water runoff is drained through these drains.
REV NO
DRAWN BY
CHECKED BY
DATE REVISED
APPROVED BY
GREAT LAKES PIPE LINE CO.
KANSAS CITY, MISSOURI
TERMINAL FACILITIES
CHICAGO ILL.
TERM.2.
SECTION HEAD
SCALE
DWG. 206 C 1000

THE SIGMA-ALDRICH LIBRARY OF CHEMICAL SAFETY DATA

Explanation of Codes

PROCEDURES FOR SPILLS OR LEAKS

1 Absorb on sand or vermiculite and place in closed container for disposal.
2 Cover with dry lime, sand, or soda ash. Place in covered containers using nonsparking tools and transport outdoors.
3 Shut off all sources of ignition.
4 Evacuate area.
5 Cover with an activated carbon adsorbent, take up and place in closed container. Transport outdoors.
6 Ventilate area and wash spill site after material pickup is complete.
7 Sweep up, place in a bag and hold for waste disposal.
8 Avoid raising dust.
9 Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves.
10 Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves.
11 Cover with dry lime or soda ash, pick up, keep in a closed container and hold for waste disposal.
12 Carefully sweep up and remove.
13 Flush spill area with copious amounts of water.
14 Mix with solid sodium bicarbonate.
15 Place in appropriate container.
16 Wear protective equipment.
17 Wash spill site with soap solution.
18 Please contact the Technical Services Department. Be sure to mention the name and catalog number of the material.

FIRE-EXTINGUISHING MEDIA

1 Carbon dioxide.
2 Dry chemical powder.
3 Water spray.
4 Alcohol or polymer foam.
5 Class D fire-extinguishing material only.
6 Water may be effective for cooling, but may not effect extinguishment.
7 Carbon dioxide, dry chemical powder, alcohol or polymer foam.
8 Foam and water spray are effective but may cause frothing.
9 Do not use dry chemical powder extinguisher on this material.
10 Do not use carbon dioxide extinguisher on this material.
11 Noncombustible.
12 Do not use water.
13 Use extinguishing media appropriate to surrounding fire condition

Z14,866-0

Sigma-Aldrich Corporation, P.O. Box 355, Milwaukee, Wisconsin 53201 USA
(Sigma: 314-771-5765; Aldrich: 414-273-3850)

WASTE-DISPOSAL METHODS

The disposal methods outlined below are intended only as guides. We do not assume responsibility for their use. Careful consideration must be given to the chemical and physical properties of the substance. In addition, local laws and regulations may preclude the use of these methods which are primarily designed for small quantities. Observe all federal, state, and local laws.

The disposal of some chemicals may require deactivation or modification of the material by chemical means. Chemical waste-disposal reactions must be handled with the same care and consideration used with synthetic procedures. Appropriate consideration must be given to reaction conditions, *i.e.*, stoichiometry, order and rate of addition, heat of reaction, evolution of gaseous products, pH, efficiency of stirring, rate of reaction, atmospheric sensitivity, etc.

Chemical waste-disposal reactions should be carried out in a chemical fume hood and in appropriate laboratory glassware. Because these reactions are often vigorous, protective safety equipment such as safety goggles, respirator, gloves, face and/or safety shield and other protective equipment must be used.

Initial reactions in a disposal sequence should be carried out on a small scale (5-10g). The reactant concentrations should not exceed 10% of the reaction volume and the final reaction volume should not exceed 50% of the working capacity of the reaction vessel, regardless of the reaction scale. Larger quantities of the material should be handled in several small-size reactions. To ensure completion of reaction, the waste disposal procedure should be run for at least an additional 4 to 8 hours after all materials have been mixed.

All reactions should be run by technically qualified persons familiar with the potential hazards of the chemical reactions.

A Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

B The material should be ignited in the presence of sodium carbonate and slaked lime (calcium hydroxide). The substance should be mixed with vermiculite and then with the dry caustics, wrapped in paper and burned in a chemical incinerator equipped with an afterburner and scrubber.

C This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.

D Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

E To a solution of the product in water, add an excess of dilute sulfuric acid. Let stand overnight. Remove any insolubles and bury in a landfill site approved for hazardous-waste disposal.

F Cautiously dissolve the material in water. Neutralize immediately with sodium carbonate or, if the material does not dissolve completely, add a little hydrochloric acid followed by sodium carbonate. Add calcium chloride in excess of the amount needed to precipitate the fluoride and/or carbonate. Separate the insolubles and bury in a landfill site approved for hazardous-waste disposal.

G Under an inert atmosphere, cautiously add the material to dry butanol in an appropriate solvent. The chemical reaction may be vigorous and/or exothermic. Provisions must be made for venting of large volumes of highly flammable hydrogen and/or hydrocarbon gases. Neutralize the solution with aqueous acid. Filter off any solid residues for disposal as hazardous waste. Burn the liquid portion in a chemical incinerator equipped with an afterburner and scrubber.

H Neutralize the solution and add filtering agent (10g per 100ml). Evaporate the liquid and bag the residual solid for burial in a landfill site approved for hazardous-waste disposal.

I Dissolve the solid in (or dilute the solution with) a large volume of water. Carefully add a dilute solution of acetic acid or acetone to the mixture in a well ventilated area. Provisions should be made to vent safely the hydrogen gas given off during the decomposition. Check acidity of the solution and adjust to pH 1 if necessary. Let stand overnight. Neutralize the solution (pH 7). Evaporate the solution and bury the residue in a landfill site approved for hazardous-waste disposal.

J Cautiously acidify a 3% solution or a suspension of the material to pH 2 with sulfuric acid. Gradually add a 50% excess of aqueous sodium bisulfite with stirring at room temperature. An increase in temperature indicates that a reaction is taking place. If no reaction is observed on the addition of 10% of the sodium bisulfite solution, initiate it by cautiously adding more acid. If manganese, chromium, or molybdenum is present, adjust the pH of the solution to 7 and treat with sulfide to precipitate for burial as hazardous waste. Destroy excess sulfide, neutralize and flush solution down the drain.

K Please contact the Technical Services Department. Be sure to mention name, catalog number and quantity of the material.

L The material should be dissolved in 1) water; 2) acid solution or 3) oxidized to a water-soluble state. Precipitate the material as the sulfide, adjusting the pH of the solution to 7 to complete precipitation. Filter the insolubles and dispose of them in a hazardous-waste site. Destroy any excess sulfide with sodium hypochlorite. Neutralize the solution before flushing down the drain.

M A slurry of the arenediazonium salt with water can be disposed of by adding it gradually to a stirred solution of 5-10% excess 2-naphthol in 3% aqueous sodium hydroxide at 0-20°C. After 12 hours, the resulting azo dye is filtered and either incinerated or buried in a landfill site approved for hazardous-waste disposal. Neutralize the remaining solution before disposal.

N For small quantities: cautiously add to a large stirred excess of water. Adust the pH to neutral, separate any insoluble solids or liquids and package them for hazardous-waste disposal. Flush the aqueous solution down the drain with plenty of water. The hydrolysis and neutralization reactions may generate heat and fumes which can be controlled by the rate of addition.

O Bury in a landfill site approved for the disposal of chemical and hazardous waste.

P Material in the elemental state should be recovered for reuse or recycling.

Q Cautiously make a 5% solution of the material in water or dilute acid. There may be a vigorous, exothermic reaction and fumes may be generated due to the hydrolysis of the material. Control any reaction by cooling and by the rate of addition of the material. Gradually add dilute ammonium hydroxide to pH 10. Filter off any precipitate for disposal in a chemical landfill. If there is no precipitation, gradually adjust the pH from 10 to 6, stopping when precipitation occurs.

R Catalysts and expensive metals should be recovered for reuse or recycling.

S Treat a dilute basic solution (pH 10-11) of the material with a 50% excess of commercial laundry bleach. Control the temperature by the addition rate of bleach and adjust pH if necessary. Let stand overnight. Cautiously adjust solution to pH 7. Vigorous evolution of gas may occur. Filter any solids for burial in a chemical landfill. Precipitate any heavy metals by addition of sulfide and isolate for burial. Additional equivalents of hypochlorite may be needed if the metal can be oxidized to a higher valence state. For metal carbonyls, the reaction should be carried out under nitrogen.

T Cautiously make a 5% solution of the product in water; vent because of possible vigorous evolution of flammable hydrogen gas. Acidify the solution to pH 1 by adding 1*M* sulfuric acid dropwise. Acidification will cause vigorous evolution of hydrogen gas. Allow the solution to stand overnight. Evaporate the solution to dryness and bury the residue in a landfill site approved for hazardous-waste disposal.

U Take the material (or a solution) and make a 5% solution in tetrahydrofuran. Cautiously add the solution dropwise to an ice-cooled, stirred basic solution of commercial bleach. Oxidation may release flammable hydrocarbon gases which must be vented. Let stand overnight. Adjust the pH to 7 and destroy excess hypochlorite with sodium bisulfite before disposal of the solution.

V Under an inert atmosphere cautiously add dry butanol or a mixture of dry butanol in an appropriate solvent, to a solution of the material in tetrahydrofuran. The chemical reaction may be vigorous and/or exothermic. Provisions must be made for the venting of a large volume of flammable hydrogen gas. When gas evolution ceases, cautiously add a basic hypochlorite solution dropwise to the reaction solution. Let stand overnight. Neutralize the solution and treat with sodium bisulfite to destroy any excess hypochlorite. Filter any solids for burial in a landfill site approved for hazardous-waste disposal.

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name Benzene **Date** 2/24/87

OT Classification _____ **Job Number** F1L05035A

CAS Number 71-43-2

REFERENCES CONSULTED (circle; also include MSDS if approprate.)
(NIOSH/OSHA Pocket Guide) Merck Index (Hazardline) (Chris(vol.III)) (ACGIH TLV Booklet) Toxic & Hazardous Safety Manual (SAX) (Aldrich) (RTECS) other: _____

CHEMICAL PROPERTIES: (Synonyms: benzol, benzole, cyclohexatriene)
Chemical Formula C_6H_6 MW 78 Ionization Potential 9.245ev
Physical State liquid Boiling Point 176°F Freezing Point 42°F
Flash Point 12°F Flammable Limits 1.3-7.1% Vapor Pressure 75mm
Specific Gravity/Density 0.879 Odor/Odor Threshold 4.68 ppm
Solubility-water: slightly Solubility-other: _____
Incompatabilities & Reactivity: strong oxidizers, chlorine, bromine

TOXICOLOGICAL PROPERTIES:
Exposure Limits: TLV-TWA (ACGIH) 10 ppm PEL (OSHA) 10 ppm
STEL none Ceiling Limits >25<50ppm/10min IDLH 2000 ppm
Toxicity Data: (Indicate duration of study)
Human; IHL Tclo 100/CNS Dermal _____ Oral Tdlo 130mg/kg:CNS
Rat/Mouse; IHL Tclo 50/24H Dermal _____ Oral LD50 3800mg/kg
Aquatic: Tlm96:100-10ppm Other: IHL:Man TC 2100mg/m3/4Y; carc.
Carcinogen human-sus Mutagen exper. Reproductive Toxin exper.
oute(s) of exposure - (circle all that apply): (Inhalation) (Ingestion) (Dermal Contact) (Eye(ocular)) (Dermal Absorption) Other _____

HANDLING RECOMMENDATIONS: **(personal protective measures)**
Respirators: 10 ppm use SCBA
Protective Clothing: excel-viton; good-neoprene, saranax; poor-butyl, natural rubber for gloves. Avoid skin/eye contact.
Special Equipment: none

DISPOSAL, FIRE and SPILLS: **(Use numbered codes; see attached sheets for explanation.)**
Disposal D Fire 6,7 Leaks&Spills 3,4,5,6,9
Decomposition Products: toxic fumes of carbon dioxide, carbon monoxide

FIRST AID:
ING: Do not induce vomiting, give water or milk, medical attent. immed.
IHL: Remove to fresh air, give artificial resp. if needed, medical attent.
Eye/Skin: Flush with water, rinse/wash skin with soap & water thoroughly.

SYMPTOMS:
acute(immediate) exposure effects: skin irritant, CNS depressant, mostly IHL, initial excitation followed by headache, dizziness, vomiting, delirium, severe exposure may see tremors, blurred vision, shallow resp., convulsions.

chronic(long term) exposure effects: anorexia, drowsiness, anemia, bleeding under skin, reduced blood clotting; liver, kidney, bone marrow damage, leukemia.

reproductive effects: None reported in humans.

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name Ethyl Benzene **Date** 2/24/87

DOT Classification _____ **Job Number** F1050355A

CAS Number 100-41-4

REFERENCES CONSULTED (circle; also include MSDS if approprate.)
(NIOSH/OSHA Pocket Guide) Merck Index (Hazardline) (Chris(vol.III))
(ACGIH TLV Booklet) Toxic & Hazardous Safety Manual (SAX) (Aldrich)
RTECS other: _____

CHEMICAL PROPERTIES: (Synonyms: Phenylethane, ethyl benzol)
Chemical Formula C2H5C6H5 MW 106 Ionization Potential 8.76 ev
Physical State liquid Boiling Point 277°F Freezing Point -139°F
Flash Point 59°F Flammable Limits 1.0-6.7% Vapor Pressure 7.1mm
Specific Gravity/Density 0.867 Odor/Odor Threshold 140ppm

Solubility-water: slightly Solubility-other: _____
Incompatabilities & Reactivity: Oxidizers, ozone, oxygen

TOXICOLOGICAL PROPERTIES:
Exposure Limits: TLV-TWA (ACGIH) 100ppm PEL (OSHA) 100ppm
STEL 125ppm Ceiling Limits none est. IDLH 2000ppm
Toxicity Data: (Indicate duration of study)
Human; IHL Tclo 100ppm/8hr Dermal _____ Oral _____
Rat/Mouse; IHL Lc50 400ppm/4hr Dermal _____ Oral LD50 3500mg/kg
Aquatic: T/M 96:100-10ppm Other: _____
Carcinogen neg. Mutagen neg. Reproductive Toxin exp. teratogen
Route(s) of exposure - (circle all that apply): (Inhalation) (Ingestion)
(Dermal Contact) (Eye(ocular)) Dermal Absorption Other _____

HANDLING RECOMMENDATIONS: **(personal protective measures)**
Respirators: 100ppm APR w/chemical cartridge, 2000ppm-SCBA
Protective Clothing: Excel-viton; Poor-butyl, natural; Var-neoprene, nitrile
Special Equipment: None

DISPOSAL, FIRE and SPILLS: **(Use numbered codes; see attached sheets for explanation.)**
Disposal D Fire 6.7 Leaks&Spills 3,4,5,6,9
Decomposition Products: CO, CO_2

FIRST AID:
ING: Do not induce vomiting, medical attent. to remove by gastric lavage.
IHL: Move to fresh air, CPR if necessary, medical attent.
Eye/Skin: Irrigate immed. w/water. wash skin thoroguhly w/soap & water

SYMPTOMS:
acute(immediate) exposure effects: Irritation of skin, eyes, nose, mucous membranes. Dizziness, constriction of chest, lacrimation, nausea, headache, vomiting, CNS depression.

chronic(long term) exposure effects: Skin contact may cause erythema & skin inflammation. No other data for chronic effects.

reproductive effects: None

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name Lead **Date** 2/24/87

DOT Classification _____ **Job Number** F1050355

CAS Number 7439-92-1

REFERENCES CONSULTED (circle; also include MSDS if approprate.)
(NIOSH/OSHA Pocket Guide) Merck Index (Hazardline) (Chris(vol.III)) (ACGIH TLV Booklet) Toxic & Hazardous Safety Manual (SAX) (Aldrich) (RTECS) other: Sittig

CHEMICAL PROPERTIES: (Synonyms: White lead, plumbum)
Chemical Formula Pb MW 207 Ionization Potential N/A
Physical State Variable Boiling Point 3164°F Freezing Point _____
Flash Point Incombust. Flammable Limits Incombus Vapor Pressure variable
Specific Gravity/Density 11.3 @61°FOdor/ Odor Threshold None
Solubility-water: Insoluble Solubility-other: _____
Incompatabilities & Reactivity: Strong oxidizers,perioxides,active metals

TOXICOLOGICAL PROPERTIES:
Exposure Limits: TLV-TWA (ACGIH) .15 mg/m³ PEL (OSHA) 50ug/m³
STEL None est. Ceiling Limits None est. IDLH Variable
Toxicity Data: (Indicate duration of study)
Human; IHL _____ Dermal _____ Oral Td10 450mg/kg/6Y
Rat/Mouse; IHL _____ Dermal _____ Oral Tdlo 790mg/kg
Aquatic: Unknown Other: Toxicity varies with lead cpds.
Carcinogen Indef. Mutagen Indef Reproductive Toxin exp.teratogen
Route(s) of exposure - (circle all that apply): (Inhalation) (Ingestion) (Dermal Contact) (Eye(ocular)) (Dermal Absorption) Other _____

HANDLING RECOMMENDATIONS: (personal protective measures)
Respirators: 5mg/m3 high efficiency particulate respirator, other concentrations - SCBA.
Protective Clothing: Avoid skin and eye contact
Special Equipment: None

DISPOSAL,FIRE and SPILLS: (Use numbered codes;see attached sheets for explanation.)
Disposal P Fire 13 Leaks&Spills 7,8,10
Decomposition Products: Toxic fumes of lead

FIRST AID:
ING: Give water, induce vomiting, medical attention immed.
IHL: Move to fresh air, artifical resp. if necessary, medical attent.
Eye/Skin: Irrigate/wash with water. Wash skin thoroughly with soap & water.

SYMPTOMS:
acute(immediate) exposure effects: Cumulative neurotoxin-commonly occurs from prolonged exposure.Symptoms include stomach distress,vomiting, diarrhea,black stools, anemia, nervous system effects.
chronic(long term) exposure effects: 3 clinical types:a-ailmentary-abominal pain,discomfort,constipation or diarrhea,metallic taste,lead line on gum headache. b-nueromuscular, muscle weakness,joint/muscle pain,dizziness, insomnia,paralysis c-encephalic:brain involvement,stupor,coma,death,rare.
reproductive effects: Human epid. studies have concluded that lead is a poison to male & female germ cells;increased incidence of miscarriages, stillbirths, sterility in females;sperm depression & decreased motiltiy in males

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name Toluene **Date** 2/24/87

DOT Classification _____ **Job Number** F1605035A

CAS Number 108-88-3

REFERENCES CONSULTED (circle; also include MSDS if approprate.)
(NIOSH/OSHA Pocket Guide) Merck Index (Hazardline) (Chris(vol.III))
(ACGIH TLV Booklet) Toxic & Hazardous Safety Manual (SAX) (Aldrich)
RTECS other: Sittig

CHEMICAL PROPERTIES: (Synonyms: Phenyl methane, methyl benzene)
Chemical Formula $C_6H_5CH_3$ MW 92 Ionization Potential 8.82ev
Physical State liquid Boiling Point 231°F Freezing Point -139°F
Flash Point 40°F Flammable Limits 1.27-7% Vapor Pressure 22mm
Specific Gravity/Density 0.867 Odor/Odor Threshold 0.17ppm
Solubility-water: slightly Solubility-other: _____
Incompatabilities & Reactivity: Strong oxidizers, nitric acid, peroxides

TOXICOLOGICAL PROPERTIES:
Exposure Limits: TLV-TWA (ACGIH) 100ppm PEL (OSHA) 200ppm
STEL 150ppm(skin) Ceiling Limits 300ppm/15min IDLH 2000 ppm
Toxicity Data: (Indicate duration of study)
Human; IHL Tclo 200ppm Dermal _____ Oral _____
Rat/Mouse; IHL Lclo 4000pm/4H Dermal _____ Oral _____
Aquatic: Tlm 96: 100-10ppm Other: _____
Carcinogen exper. Mutagen exper Reproductive Toxin exp.teratogen
Route(s) of exposure - (circle all that apply): (Inhalation) (Ingestion)
(Dermal Contact) (Eye(ocular)) Dermal Absorption Other _____

HANDLING RECOMMENDATIONS: **(personal protective measures)**
Respirators: 1000ppm-APR w/chemical cartridge; 2000 ppm-SCBA
Protective Clothing: Excel-viton: Good-Polyurethane, neoprene/styrene;
Poor-neopene, butyl.
Special Equipment: None

DISPOSAL, FIRE and SPILLS: **(Use numbered codes; see attached sheets for explanation.)**
Disposal D Fire 6.7 Leaks&Spills 3,4,5,6,9
Decomposition Products: CO, CO_2

FIRST AID:
ING: Do not induce vomiting, contact physician immed.
IHL: Remove to fresh air, artifical resp, if necessary.
Eye/Skin: Irrigate/wash with large amounts of water for at least 15 min.

SYMPTOMS:
acute(immediate) exposure effects: IHL: dizziness, headache, ING: vomiting, nausea, diarrhea. Liquid irritates eyes, dries skin.

chronic(long term) exposure effects: Kidney and/or liver damage if ingested. Inhalation may cause anemia, bone marrow hypoplasia. Dermatitis with skin contact.

reproductive effects: None

Ecology and Environment, Inc.
Hazard Evaluation of Chemicals
Region V - Chicago

Chemical Name Xylene (mixed isomers) **Date** 2/24/87

DOT Classification _____ **Job Number** F1605035A

CAS Number 1330-20-7

REFERENCES CONSULTED (circle; also include MSDS if approprate.)
(NIOSH/OSHA Pocket Guide) Merck Index (Hazardline) (Chris(vol.III)) (ACGIH TLV Booklet) Toxic & Hazardous Safety Manual (SAX) (Aldrich) RTECS other: Sittig

CHEMICAL PROPERTIES: (Synonyms: dimethyl benzene, aromatic hydrocarbons)
Chemical Formula $C_6H_4(CH_3)_2$ MW 106 Ionization Potential 8.56/8.44ev
Physical State liquid Boiling Point 292/282°F Feezing Point -12°F
Flash Point 81-90°F Flammable Limits 1-7% Vapor Pressure 7-9mm
Specific Gravity/Density .864 Odor/Odor Threshold .05ppm
Solubility-water: Insoluble Solubility-other: Miscible-ether,ethanol
Incompatabilities & Reactivity: strong oxidizers

TOXICOLOGICAL PROPERTIES:
Exposure Limits: TLV-TWA (ACGIH) 100ppm PEL (OSHA) 100ppm
STEL 150ppm Ceiling Limits none est. IDLH 10,000ppm
Toxicity Data: (Indicate duration of study)
Human; IHL Tclo 200ppm Dermal _____ Oral _____
Rat/Mouse; IHL _____ Dermal _____ Oral _____
Aquatic: 96hr: 22ppm Other: _____
Carcinogen neg-anim Mutagen exper Reproductive Toxin exp.teratogen
Route(s) of exposure - (circle all that apply): (Inhalation) (Ingestion) (Dermal Contact) (Eye(ocular)) Dermal Absorption Other _____

HANDLING RECOMMENDATIONS: (personal protective measures)
Respirators: 1000 ppm APR, 5000 ppm - SCBA
Protective Clothing: Good-nitrile,viton; poor-butyl rubber,neoprene.
Special Equipment: Safety goggles,protective clothing for prolonged exposures.
DISPOSAL,FIRE and SPILLS: (Use numbered codes;see attached sheets for explanation.)
Disposal D Fire 6,7 Leaks&Spills 3,4,5,6,9
Decomposition Products: CO, CO_2

FIRST AID:
ING: Do not induce vomiting, contact physician; immediately.
IHL: Move to fresh air, artificial resp. if necessary.
Eye/Skin: Irrigate/rinse with water for at least 15 min. Wash skin throughly with soap and water.

SYMPTOMS:
acute(immediate) exposure effects: Vapors cause dizziness, headache, coughing, pulmonary distress & edema. Nausea,vomiting,abdominal cramps also seen with over-exposure.

chronic(long term) exposure effects: Possible liver and/or kidney damage, pulmonary congestion. Ingestion may be fatal.

reproductive effects: None

Medtox Hotline

1. Twenty-four hour answering service - (501) 370-8263

   What to Report:

   - State: "This is an emergency."
   - Your name, region, and site
   - Telephone number to reach you
   - Name of person injured or exposed
   - Nature of emergency
   - Action taken

2. One of three toxicologists (Drs. Raymond Harbison, Richard Freeman, or Robert James) will contact you. Repeat the information given to the answering service.

3. If a toxicologist does not return your call within 15 minutes, call the following persons in order until contact is made:

   E & E Corporate Headquarters (EST 0830-1700) - (716) 632-4491

   a. Twenty-four hour line - (716) 631-9530

   b. Corporate Safety Director - Paul Jonmaire (Office) (716) 632-4491

   c. Assistant Corporate Safety Officer - Steve Sherman (home (716) 688-0084)

Regional Office

Office Phone Number: (312) 663-9415

	Name	Home
Team Leader	Rene' Van Someren	(312)763-7335
Regional Safety Coordinator	Paul Moss	(312)541-6635